## (19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 14 July 2005 (14.07.2005)

PCT

## (10) International Publication Number WO 2005/063896 A2

- (51) International Patent Classification<sup>7</sup>: C08K 5/3435, 5/34, C08L 23/10
- C08L 101/00,
- (21) International Application Number:

PCT/US2004/043346

(22) International Filing Date:

24 December 2004 (24.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/532,491

24 December 2003 (24.12.2003) US

- (71) Applicant (for all designated States except US): DOW GLOBAL TECHNOLOGIES INC. [US/US]; Washington Street, 1790 Building, Midland, MI 48674 (US).
- (72) Inventors; and
- Inventors/Applicants (for US only): CHAUDHARY, Bharat, I. [US/US]; 14 Michelle Court, Princeton, NJ 08540 (US). CHEUNG, Yunwa, W. [US/US]; 104 Rosemary Lane, Lake Jackson, TX 77566 (US). CUNTALA, Randall, M. [US/US]; 115 Mount Pleasant Road, Columbia, NJ 07832 (US). ESSEGHIR, Mohamed [US/US]; 5 Robin Lane, Monroe Township, NJ 08831 (US). KLIER, John [US/US]; 5717 Stillwater Lane, Midland, MI 48642 (US).

- (74) Agent: HANSBRO, Kevin, R.; The Dow Chemical Company, Intellectual Property, P.O. Box 1967, Midland, MI 48641-1967 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FREE-RADICAL-INITIATED CROSSLINKING OF POLYMERS

(57) Abstract: The present invention is a free-radical carbon-FRTS-carbon crosslinkable polymeric composition. The resulting carbon-FRTS-carbon crosslinked polymer is prepared from at least one polymer which upon forming free radicals preferentially degrades or carbon-carbon crosslinks. The present invention permits suppression of the preferential reaction while permitting the polymer to be carbon-FRTS-carbon crosslinked through a free-radical trapping species. Suppressing the undesirable degradation or carbon-carbon crosslinking reaction and permitting the desirable carbon-FRTS-carbon crosslinking reaction yield a uniquely crosslinked polymer.

